Abstract of the Disclosure
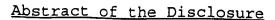
A hierarchical communication system, arranged in a spanning tree configuration, is described in which wired and wireless communication networks exhibiting substantially different characteristics are employed in an overall scheme to link portable or mobile computing devices. Copies of data, program code and processing resources are migrated from their source toward requesting destinations based on request frequency, communication link costs and available local storage and/or processing resources. Each appropriately configured network device acts as an active participant in network migration. In addition, portable two-dimensional (2-D) code reading terminals are configured to wirelessly communicate compressed 2-D images toward stationary access servers that identify the code image through decoding and through comparison with a database of images that have previously been decoded and stored.